Claims

1. A control map for a controller of an electrical machine having a rotor and at least one electrically energisable phase winding, the control map comprising a predetermined advance angle profile representing energisation of the phase winding with respect to angular position of the rotor over a range of rotor speeds, and an angle correction factor to be applied to a predetermined portion of the advance angle profile.

2. A control map as claimed in claim 1, in which the advance angle profile includes on-advance angle data for a predetermined range of rotor speeds.

3. A control map as claimed in claim 2, in which the angle correction factor is applied to the on-advance angle.

4. A control map as claimed in claim 1, in which the predetermined profile includes off-advance angle data for a predetermined range of rotor speeds.

5. A control map as claimed in claim 4, in which the angle correction factor is applied to the off-advance angle.

6. A control map as claimed in claim 1, 2 or 4, in which the angle correction factor depends on a difference between a measured input power to the machine and a predetermined input power at a predetermined rotor speed.

7. A control map as claimed in claim 6, in which the angle correction factor comprises a change in angle required to reduce the discrepancy between the predetermined input power and the measured input power to within predetermined limits.

8. A method of controlling an electrical machine having a rotor and at least one electrically energisable phase winding, comprising providing a control map as claimed in claim 1, 2 or 4, to a controller for the electrical machine, storing the control map in a

memory in the controller and using the controller to control the electrical machine based on the stored control map.

9. A method of generating a control map for a controller of a machine having a rotor and at least one electrically energisable phase winding, the method comprising:

producing a predetermined advance angle profile representing energisation of the phase winding with respect to the angular position of the rotor over a range of rotor speeds;

energising the winding in accordance with the advance angle profile; and

producing an angle correction factor to be applied to a predetermined portion of the control map.

10. A method as claimed in claim 9, in which the winding is energised in accordance with the advance angle profile at a predetermined speed, which speed is associated with a predetermined input power, the method further comprising measuring the input power and producing the angle correction factor in dependence on a difference between the measured power and the predetermined power.

11. A method as claimed in claim 10, in which the step of producing the angle correction factor includes applying predetermined incremental changes to the advance angle profile, measuring the input power after each incremental change and comparing the measured input power with the predetermined input power.

12. A method as claimed in claim 10 or 11, in which the angle correction factor comprises the change in angle required to reduce the difference between the measured input power and the predetermined input power to within predetermined limits.

13. A method as claimed in claim 9, 10 or 11, further comprising storing the angle correction factor in a memory associated with the controller.

14. A method as claimed in claim 9, 10 or 11, further comprising transmitting the angle correction factor to the controller by means of radio frequency signals.

15. A method as claimed in claim 9, 10 or 11, in which the input voltage applied to the phase winding is substantially constant.

16. A recorded medium comprising a computer program stored thereon for controlling a machine in accordance with the method as claimed in claim 9, 10 or 11.

17. (Canceled).

18. An electrical machine incorporating a control map as claimed in claim 1, 2 or 4.

19. An electrical machine as claimed in claim 18, in the form of a switched reluctance motor.

20. A cleaning appliance incorporating an electrical machine as claimed in claim 18.

21-24. (Canceled)

25. A method of controlling an electrical machine having a rotor and at least one electrically energisable phase winding, comprising providing a control map as claimed in claim 6 to a controller for the electrical machine, storing the control map in a memory in the controller and using the controller to control the electrical machine based on the stored control map.

26. An electrical machine incorporating a control map as claimed in claim 6.

27. An electrical machine as claimed in claim 26, in the form of a switched reluctance motor.